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gives an account of the results of his experiments to determine its solubility at different temperatures. He next proceeds to consider the bicarbonate of ammonia, which he finds to consist of one proportion of ammonia, two of carbonic acid, and two of water. He concludes by an inquiry into the effects of heat on the solid sesquicarbonate and the carbonate of ammonia, in which he reviews the experiments and inferences which Sir H. Davy has recorded in his manuscript notes.

5. "On the Influence of Colour on Heat and Odours." By James Stark, M.D., of Edinburgh. Communicated by Sir David Brewster, K.H., LL.D., F.R.S. V.P.R.S. Ed.

The author observes, that the only experiments on record relating to the modifying effect of different colours on the absorption of heat from solar light, are those of Franklin and of Sir H. Davy. In order to investigate this subject, the author employed pieces of wool, silk, and cotton, which were wrapped round the bulb of a thermometer placed in a glass tube : the tube was then plunged into boiling water, and the time which elapsed during the rise of the thermometer from one given point to another was accurately noted. Other experiments were also made with an air-thermometer, of which the bulb was coated with various coloured materials, and heat thrown on the ball by means of polished tin reflectors from an Argand burner. The results accord very nearly with those of Franklin and of Davy ; the absorbing power with regard to different colours being nearly uniformly in the order of *black, brown, green, red, yellow, and white*. The author next investigates the differences which occur in the radiation of heat by differently coloured substances ; a subject on which he is not aware that any experiments have ever been made previously to his own. The mode of ascertaining the amount of radiation was generally the converse of that by which the absorption of heat had been determined ; namely, by exposing the coloured substances, in contact with a thermometer, to cooling instead of heating processes. The general result of all his experiments was, that the loss of caloric by radiation follows exactly the same order, with regard to the colour of the radiating surface, as its absorption.

In the second part of his paper the author gives an account of a course of experiments which he made with a view to discover the influence of colour on the absorption of odorous effluvia, and more especially in the case of the absorption of the fumes of camphor and assa-fœtida by woollen cloth of different colours. Black cloth was always found to be possessed of the greatest absorbing powers, and white of the least ; red cloth being intermediate between them. Cottons and silks gave, on trial, precisely the same results, which were further confirmed by the different weights acquired by these substances from the deposition of camphor upon them.